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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,611	02/05/2004	Hiroyuki Senda	YAO-4210US1	5071
23122	7590	06/08/2005	EXAMINER	
RATNERPRESTIA P O BOX 980 VALLEY FORGE, PA 19482-0980			TORRES, JOSEPH D	
			ART UNIT	PAPER NUMBER
			2133	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/772,611

**Applicant(s)**

SENDA ET AL.

**Examiner**

Joseph D. Torres

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 41 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 41 and 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/311,394.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/05/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: Claims 41 and 42 recite, "the received trellis-encoded signal having  $2^s$  internal states". Nowhere in the specification does the Applicant teach a signal having  $2^s$  internal states. Claims 41 and 42 recite, "a signal having  $2^{(s+1)}$  internal states". Nowhere in the specification does the Applicant teach a signal having  $2^{(s+1)}$  internal states. The Examiner asserts that that a trellis-encoded signal is a signal generated from encoded binary data that was encoded using an N-state state machine. If that is what the Applicant intends, the Applicant should rewrite the claims to reflect that interpretation.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 41 and 42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the

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invention. Claims 41 and 42 recite, "the received trellis-encoded signal having  $2^s$  internal states". Nowhere in the specification does the Applicant teach a signal having  $2^s$  internal states.

Claims 41 and 42 recite, "a signal having  $2^{(s+1)}$  internal states". Nowhere in the specification does the Applicant teach a signal having  $2^{(s+1)}$  internal states.

The Examiner asserts that that a trellis-encoded signal is a signal generated from encoded binary data that was encoded using an N-state state machine. If that is what the Applicant intends, the Applicant should rewrite the claims to reflect that interpretation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 41 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 41 and 42 recite, "the received trellis-encoded signal having  $2^s$  internal states", which does not make sense. Claims 41 and 42 recite, "a signal having  $2^{(s+1)}$  internal states", which does not make sense. The Examiner asserts that that a trellis-encoded signal is a signal generated from encoded binary data that was encoded using an N-state state machine. If that is what the Applicant intends, the Applicant should rewrite the claims to reflect that interpretation.

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Claims 41 and 42 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. Claims 41 and 42 recite, "the received trellis-encoded signal having  $2^s$  internal states". Claims 41 and 42 recite, "a signal having  $2^{(s+1)}$  internal states". The omitted structural cooperative relationships are: the relationship between a "signal" and "internal states" of a state machine.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 41 and 42 are rejected under 35 U.S.C. 102(b) as being anticipated by Hu; Keren et al. (US 5838729 A, hereafter referred to as Hu).

Col. 8, lines 23-34 in Hu teaches that an 8 state ACS architecture is used to decode both binary data encoded using an 8-state state machine and binary data encoded using an 4-state state machine. That is: the 8 state ACS architecture is used to decode binary data encoded using an 4-state state machine by treating the binary data encoded using an 4-state state machine as binary data encoded using an 8-state state machine

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to emulate 4 state ACS architecture to decode the binary data encoded using an 4-state state machine based on a 4 state trellis diagram.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**JOSEPH TORRES  
PRIMARY EXAMINER**

Joseph D. Torres, PhD  
Primary Examiner  
Art Unit 2133